

## Scientometric Study on Tourism Development

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### Abstract

Tourism is a topic of worldwide interest, since it is an area in constant development and evolution, as well as being of vital importance because it is a source of economic, social, cultural, structural and environmental development in tourist areas or destinations. The purpose of the study is to analyze the scientific production on tourism development based on the scientometric analysis that allows characterizing the state of the art by finding the key words in trend, most cited authors, and thematic areas of tourism development in order to channel future studies. The methodology is based on the scientometric analysis in the scopus database. The results of the study indicated a high scientific productivity due to the fact that an average of 1132 articles are generated per year, with the year 2021 being the year with the most publications on the subject (2068 publications) and among the main scientific journals that are talking about tourism development, the one that stands out the most is the journal Sustainability Switzerland (1533 publications).

**Keywords:** Ecotourism, Sustainable Tourism, Commerce, Local Development.



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## 1. Introduction

The study focuses on the scientific research related to the concept of tourism development. It subsequently introduces multiple topics related to tourism development, alongside several distinct trends identified in the scientific literature.

Altimira Vega and Muñoz Vivas (2007) point out the emergence of the tourism phenomenon in the XIX century, which was primarily intended for purposes such as pleasure, relaxation, cultural exploration, health, commerce, or family connections. Tourism has been around since the Ancient Times, and the Greeks had a significant influence on this form of travel because of their inclination towards leisure and sports. During the Middle Ages, travel mostly revolved around religious pilgrimages, while in modern times, it was marked by the emergence of the first accommodations.

Manet (2014), Palomino et al. (2016), and Abarca and Vargas (2020) conceptually define tourism development as the capability of a territory's socio-productive structure to strategically plan and utilize its resources to enhance the experience of visitors by leveraging both natural and social resources to maximize economic and social gains for all stakeholders, to ultimately create a favorable perception of the destination among tourists.

Conversely, Hernandez (2000), Santos (2004), Valls (2004), and Rebollo and Castiñeira (2010) underline the capacity of a destination for generating visitor movement to attract tourists by offering products that cater to their satisfaction with a valuable proposal and effective management of accessible attractions.

Vega and Vivas (2007), Varisco (2008), Cedeño (2012), Linares and Garrido (2014), Cobeña (2018), Medina Rodríguez (2019), and Rivera (2021) assert that tourism development serves as a catalyst for local development and economic growth by creating a range of services aimed at enhancing cities, and whose primary goal is to meet the needs of tourists.

Tourism development generates in terms of the fundamental components of tourism, such as natural or cultural attractions, which include various economic, social, and environmental effects, in addition to enhanced economic growth, increased foreign exchange earnings, greater foreign investment, and the creation of local employment opportunities (Lickorish and Jenkins, 2000, Roessingh and Duijnhoven, 2005, Wojtarowski et al. 2016, and Saiz-Álvarez et al. 2020).

Tourism growth is favored when there is a strong integration with the local economy and stakeholders receive tangible benefits (Hiwaski, 2006, Manyara and Jones, 2007, López-Guzmán and Sánchez Cañizares, 2009, Casas Jurado et al. 2012, Orgaz Agüera, 2013 and González-Díaz et al. 2021).

Tourism Development aims to maximize the benefits of the collaborative economy taking competitiveness as a key factor for all parties involved, ranging from tourists, the micro-entrepreneurial sector, and the local community, to including considerations for environmental conservation (Amaya et al., 2008; Muñiz and Brea, 2010; Cortijo and Mogollón, 2011; Caro-González et al., 2015; Santos-Lacueva and Saladié, 2016; and Kumar et al., 2021).

Tourism development is a field of study in which multiple elements are integrated to provide insight into the development of a tourism area. Some of these factors that

influence it are economic, social, cultural, and environmental, as well as the marketing strategies, the impact of place image on tourism development, community livelihoods, benefits for stakeholders, and the role of public policy, management, and governance in tourism areas. Bennett and Dearden (2014), Stylidis et al. (2014), Arkema et al. (2015), Cohen et al. (2017), D'Amato et al. (2017), and Ullah et al. (2021).

Kerkhoff (2003), Maquieira et al. (2015), Galán Cuevas et al. (2019), Damas Ramos (2017), Ramos Zúñiga et al. (2020) y Camisón (2020) outline the components of tourism development, including tourism competitiveness, comparative advantages, utilization of natural resources, a business-friendly environment, infrastructure, health and hygiene standards, safety measures, technology integration, strategic planning, funding sources, marketing strategies, tourism products, and collaboration with other stakeholders.

Dickinson et al. (2014), Gretzel et al. (2015), Boes et al. (2016), Buhalis et al. (2019), and Buhalis (2020) highlight the technology trend that is being integrated into the growth of tourism in order to establish smart tourism and it concentrates on the concept of ‘smart cities’. Furthermore, Lu et al. (2015), Yung and KhooLattimore (2019), and Zeng et al. (2020) point out recommendation systems as an emerging phenomenon in the advancement of tourism facilitated by the internet of things. These systems aim to offer consumers tailored suggestions, as well as facilitate e-commerce and e-tourism.

Getz and Page (2014), Ferraro and Hanauer (2014), Bennett and Dearden (2014), De Vita et. al. (2015), Arkema et. Al. (2015), Bradshaw et. Al. (2016), Azam et. al. (2018), and Ucán et. al. (2021) consider event tourism as a field of study that focuses on tourists who have specific

purposes for their travel, such as mountain tourism, city or urban tourism, cruise tourism, eco-tourism, wellness tourism for achieving a healthy balance in mental, physical, and emotional well-being, romantic travel, and sports tourism, among others. Inhorn and Patrizio (2014) refer to a separate sector known as medical tourism, which offers medical operations at a reduced cost and with less intervention.

Castello (2020), Segura Aldana and Esparza Huamanchumo (2021) D'aurea et al. (2022), and Sathiya et al. (2023) discuss the potential changes in tourism development following the Covid-19 health crisis, as it is observed shifts in consumer preferences, such as increased reliance on technology, seeking recommendations from social networks. In addition, there is a growing demand for destinations to limit visitors' presence and prioritize bio-sanitary measures, rigorous cleaning protocols, and offer travel agencies and insurance services.

## 2. Primary Goal

Determine scientific output on tourist development based upon a scientometric study to characterize the state-of-the-art of research in this field, and identify the emerging keywords, the most influential authors, and the main topic areas of tourism development, which allows providing valuable guidance for future studies in this area.

## 3. Methodology

The information was collected using scientific articles and analyzed through a scientometric study, as described by Acevedo-Duque et al. (2020). According to Michán and Muñoz-Velasco (2013), this analysis enables synthesis, observation of various methodologies,

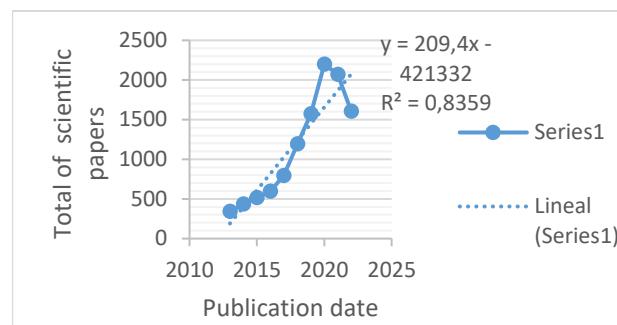
and identification of the most frequently discussed elements related to one or more specific topics.

The study employed a qualitative methodology known as the documentary approach, supported by a scientometric study. Besides, The VOS viewer tool was utilized to conduct an integrated analysis of the Scopus database, focusing on tourist development from 2013 to 2022 and using Boolean operators. The ones that were employed for this purpose were: TITLE-ABS-KEY (tourism AND development) AND (LIMIT-TO (OA, "all")) AND (LIMIT-TO (PUBYEAR, 2023-2013)).

A total of  $N = 12,134$  documents were initially collected, but after applying filters, the final sample was narrowed down to  $N = 3,650$ . An analysis of various factors was applied including the year of publication, affiliation of the authors, source of research funding, ranking of journals with the highest cite score in the field of tourism development, commonly used keywords in scientific papers, topic areas, and the theoretical framework of tourism development models through a systematic process of searching, selecting, organizing, and arranging information sources (Londoño et al., 2014).

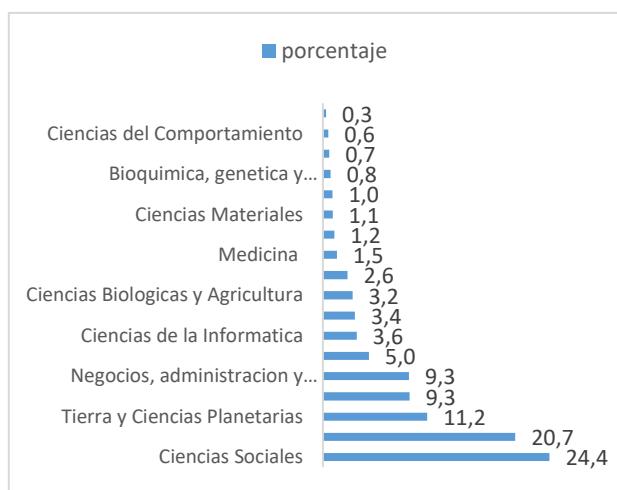
#### 4. Outcomes

The scientific output, as measured by the annual number of research articles on tourist development, demonstrates the significance of tourism and its development. In 2013, there were 342 publications. This number increased to 434 in 2014, 517 in 2015, 597 in 2016, 795 in 2017, 1195 in 2018, 1571 in 2019, 2200 in 2020, 2068 in 2021, and 1606 in 2022 (Figure 1).



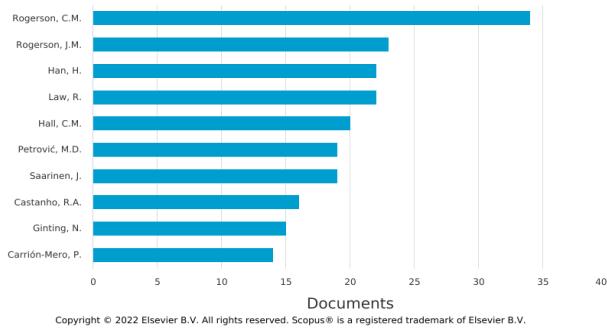
**Figure 1.** Scientific papers published every year.  
Source. Self-made based on Elsevier, B.V. (2022).

As per topic areas, the scientific publications are primarily focused on Social Sciences (6237 articles), Earth and Planetary Sciences (2871 articles), Business, Management and Accounting (2371 articles), and Computer Sciences (930 articles) (Figure 2).



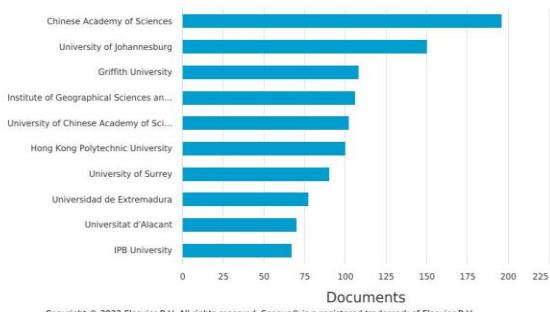
**Figure 2.** Papers published on Tourism Development according to topic area. Source Self-made based on Elsevier, B.V. (2022)

According to Figure 3, the organizations that publish the highest number of articles on tourism development are Sustainability Switzerland with 1533 papers, followed by Iop Conference Series Earth And Environmental Science with 886 papers, E3s Web Of Conferences (574), Geojournal Of Tourism And Geosites (311), Journal Of Physics Conference Series (221), Journal Of Sustainable Tourism (143), Iop Conference Series Materials Science And Engineering (140), International Journal Of Environmental Research And Public Health (137), Tourism Management (129) and Annals Of Tourism Research (118).

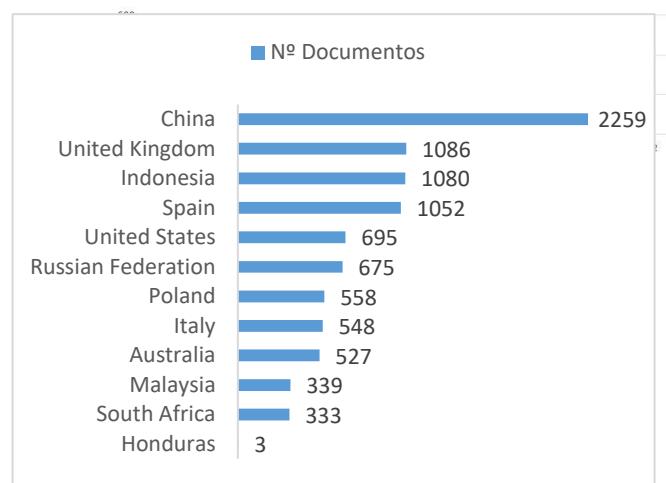


**Figure 3.** Papers published by year, origin, and funding. Source. Elsevier, B.V. (2022)

Figure 4 displays the quantity of scientific



articles published by each country from 2013 to



2022. China has the highest number of publications throughout this period, with 2259 articles. The United Kingdom follows with 1086 articles, Indonesia with 1080, Spain with 1052, the United States with 695, the Russian Federation with 675, Poland with 558, Italy with 548, Australia with 527, and Malaysia with 339.

**Figure 4.** Scientific papers published by country. Source. Self-made based on Elsevier, B.V. (2022).

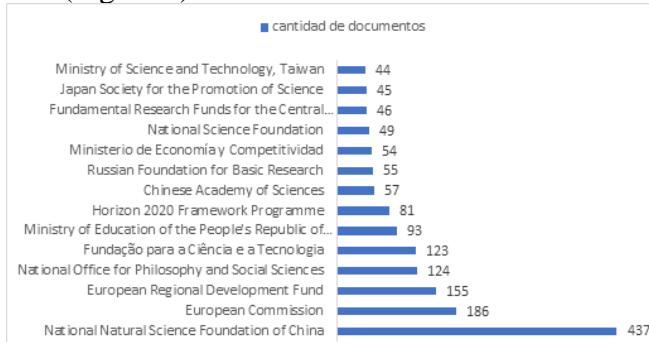
Figure 5 shows that the authors with the most published papers are Rogerson, C.M. with 34, Rogerson, J.M. with 23 papers, Han, H. (22), Law, R. (22), Hall, C.M. (20), Petrović, M.D. (19), Saarinen, J. (19), Castanho, R.A. (16), Ginting, N. (15), Carrión-Mero, P. (14), Font, X. (14), Giampiccoli, A. (14), Gössling, S. (14), Morrison, A.M. (14), Szromek, A.R. (14) y Zhang, M. (14).

**Figure 5.** Papers on tourism development by author. Source. Elsevier, B.V. (2022)

The Chinese Academy of Sciences led the ranking of scientific articles published by affiliation with 196 articles, followed by the University of Johannesburg with 150 articles, and Griffith University with 108 articles. (See Figure 6).

**Figure 6.** Papers on tourism development by academic affiliation. Source. Elsevier, B.V. (2022)

When examining the funding sources for scientific production, it is evident that the National Natural Science Foundation of China has provided the most financial support for scientific articles on tourism development, with a total of 437 funded articles, which is followed closely by the European Commission with 186 funded articles, the European Regional Development Fund with 155, and the National Office for Philosophy and Social Sciences with 124 (Figure 7).

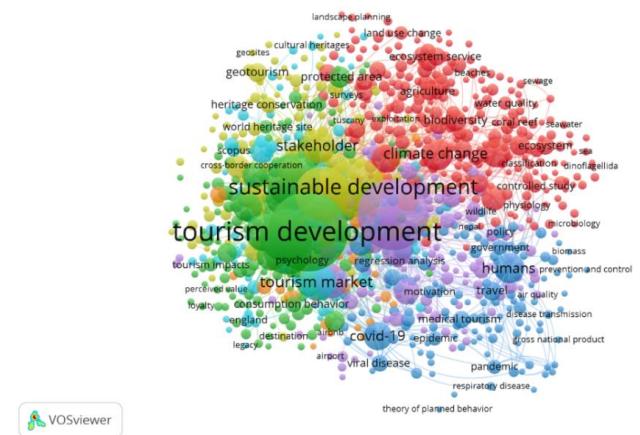


**Figure 7.** Funding source of scientific papers. Source. Self-made based on Elsevier, B.V. (2022).

A co-occurrence study on tourist development was conducted using the VOS viewer software, in which the analysis revealed the most often investigated keywords, such as tourism development, sustainable development, stakeholder, tourism marketing, and others (Figure 8).

**Figure 8.** Co-occurrence illustration on tourism development. Source. Self-made via VOS viewer (2022).

By utilizing the VOS viewer software, 7 distinct research clusters related to tourist development were identified, and some of the key topics found were tourism development, stakeholder engagement, urban growth, consumer behavior, competitiveness,



technological development, and the Internet of Things (Table 1).

**Table 1.** Clusters of research trends on tourism development

Nº	Key Topics for Research
1	Some of them are as follows, tourism development, stakeholder commitment, urban growth, adaptive management, economic conditions, social conditions, agricultural development, robots in agriculture, biodiversity, natural conservation management, cultural landscape, conservation planning, decision-making support systems, ecosystem resilience, pollution and water management, and land-use planning.
2	Also, it includes community development, consumer behavior, cultural identity, corporate social responsibility, cultural tourism, consumer satisfaction, destination development, destination marketing, destination image, cultural traditions, ecotourism, empowerment, tourist food, indigenous and rural people, local development, livelihoods, product development, outdoor recreation, and responsible tourism.
3	Catering and restaurant services, the economic impact of these services, employment, financial management, the financial crisis, national products, government involvement, public policies, international cooperation, human resources, leadership, medical tourism, the COVID-19 pandemic, risk factors, the theory of planned behavior, volunteer tourism, and unemployment.
4	Agribusiness, hierarchical process analysis, business development, community

	participation, competitiveness, development strategy, destination, tourism sustainability, economic sustainability, geo-tourism, governance, public policies, holistic approach, industrial companies, market conditions, and value chain.
5	Air quality, transportation, automation, competition, crisis management, domestic tourism, emissions control, environmental conditions, climate, cultural heritage management, cultural distribution, tourism distribution, infrastructure, and urbanization.
6	Accessible tourism, artificial intelligence, cultural reality, data distribution, circular economy, communication, data mining, data competitiveness, data competitiveness, mobile competitiveness, connection analysis, smart cities, technological development, internet of things.
7	Ultimately, there are other areas of focus such as mobile competitiveness, financial systems, over-tourism, destination branding, shared economy, urban transportation, urban planning, mobility, and process implementation.

**Source:** Self-made based on Elsevier, B.V. (2022).

The VOS viewer software identified the most frequently referenced articles in the Decision Systems and EService Intelligence Lab (897 citations) with the title "Developments in recommender system applications," the Electronic Markets Journal (732 citations) with the title "Intelligent tourism," and the Human Reproduction Update Journal (695 citations) with the title "Infertility in the world" (Table 2).

**Table 2.** Summary of Citation Ranking on Tourism Development

Nº	Article name	Nº of Citations	Author and year	Document Source			
1	Application developments of recommendation systems: a study.	897	Lu, J., Wu, D., Mao, M., Wang, W., & Zhang, G. (2015)	Decision Systems and Intelligence Lab, Technology University of Sydney, Australia	Reasons for the lack of local people's support for conservatio n: Community perceptions on the effects of marine protected	434	Bennett, N. J., & Dearden, P. (2014)
2						454	Getz, D., & Page, S. J. (2014)
3						695	Inhorn, M. C., & Patrizio, P. (2014)
4						732	Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015)
5						434	Rajak, S., Vimal, K.E.K., Arumug am, S. et al. (2022)

	areas on livelihoods, governance, and management in Thailand.			the National Academy of Sciences of the United States of America (18.1) (Table 3).
<b>6</b>	Green, circular, and biological economy: a comparative analysis of sustainability pathways.	D'Amato, D., Droste, N., Allen, B., Kettune, M., Lähtine, K., Korhonen, J., . . . Toppinen, A. (2017)	Z Journal Name	Perce ntile
			Citatio n Coeffici ent (Citescore)	Total of Citatio ns
			Human Reproduct ion Update Journal	4157
<b>7</b>	Consumer's behavior in tourism: Fundamental concepts, influences, and potential opportunities.	Cohen, S. A., Prayag, G., & Moital, M. (2017)	1	179
		Acevedo, Duque, Á.; Prado-Sabido, T.; Gomes Ramires, T.; Ovalles-Toledo, L.V. (2022)	2	15,242
			Tourism Managem ent Journal	770
			Proceedin gs of the National Academy of Sciences of the United States of America	14,232
<b>4</b>	Decision Systems and E-Service Intelligenc e Lab, University of Technolog y Sydney, Australia	Current Issues in Tourism	95th	257,989
		Journal of Cleaner Productio n	97th	1805
		Decision Systems and E-Service Intelligenc e Lab, University of Technolog y Sydney, Australia	99th	4,360
<b>6</b>	Current Issues in Tourism	Decision Systems and E-Service Intelligenc e Lab, University of Technolog y Sydney, Australia	99th	437
		Decision Systems and E-Service Intelligenc e Lab, University of Technolog y Sydney, Australia	92th	588

**Source:** Self-made based on Elsevier, B.V. (2022).

The Scopus database ranks the following journals with the highest citation coefficient in the field of tourism development: Human Reproduction Update Journal (23.2), tourist Management Journal (19.8), and Proceedings of

**Source:** Self-made based on Elsevier, B.V. (2022).

## 5. Conclusions

Between 2013 and 2022, it was revealed by using Boolean searches that a total of 12,134 scientific papers were produced on the topics of development and tourism, in which 2021 alone had the highest number of publications, with 2068 papers. The main authors were Rogerson, C.M. with 34 published scientific articles, Rogerson, J.M. with 23 papers, Han, H. with 22 papers, Law, R. with 22 papers, Hall, C.M. with 20 papers, Petrović, M.D. with 19 papers, Saarinen, J. with 19 papers, and Castanho, R.A. (16), Ginting, N. (15), Carrión-Mero, P. (14), Font, X. (14), Giampiccoli, A. (14), Gössling, S. (14), Morrison, A.M. (14), Szromek, A.R. (14) y Zhang, M. (14).

The primary scientific journals that have focused on tourism development include Current Issues in Tourism, Decision Systems and E-Service Intelligence Lab at the University of Technology Sydney in Australia, Electronic Markets Journal, Tourism Management Journal, Tourism Management, and International Journal of Tourism Cities. Also, the subject areas that receive the most research attention in the field of tourism development are social sciences, environmental sciences, earth and planetary sciences, business, management and accounting, and computer sciences.

The research approaches used in the study of tourism development can be categorized into 7 distinct research clusters, which in turn, related keywords to tourism development that were found through a scientometric analysis conducted between the years 2013 and 2022. Some of them included stakeholders, robots, ecosystem resilience, consumer behavior, cultural identity, tourism sustainability, and circular economy. These keywords showed the key areas of focus and emerging trends in research within the tourism sector.

A few current research trends in tourism development include tourism for specific

purposes or events, medical tourism, and tourism driven by information technologies. Besides, factors such as economic growth, comparative advantage, and the competitiveness of tourist destinations have been identified as internal and external influences on tourism development. Consequently, a comprehensive model that incorporates these various factors is necessary to measure tourism development effectively, and thus attract more tourists, as well as enhance the economic flow of income in tourist areas.

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